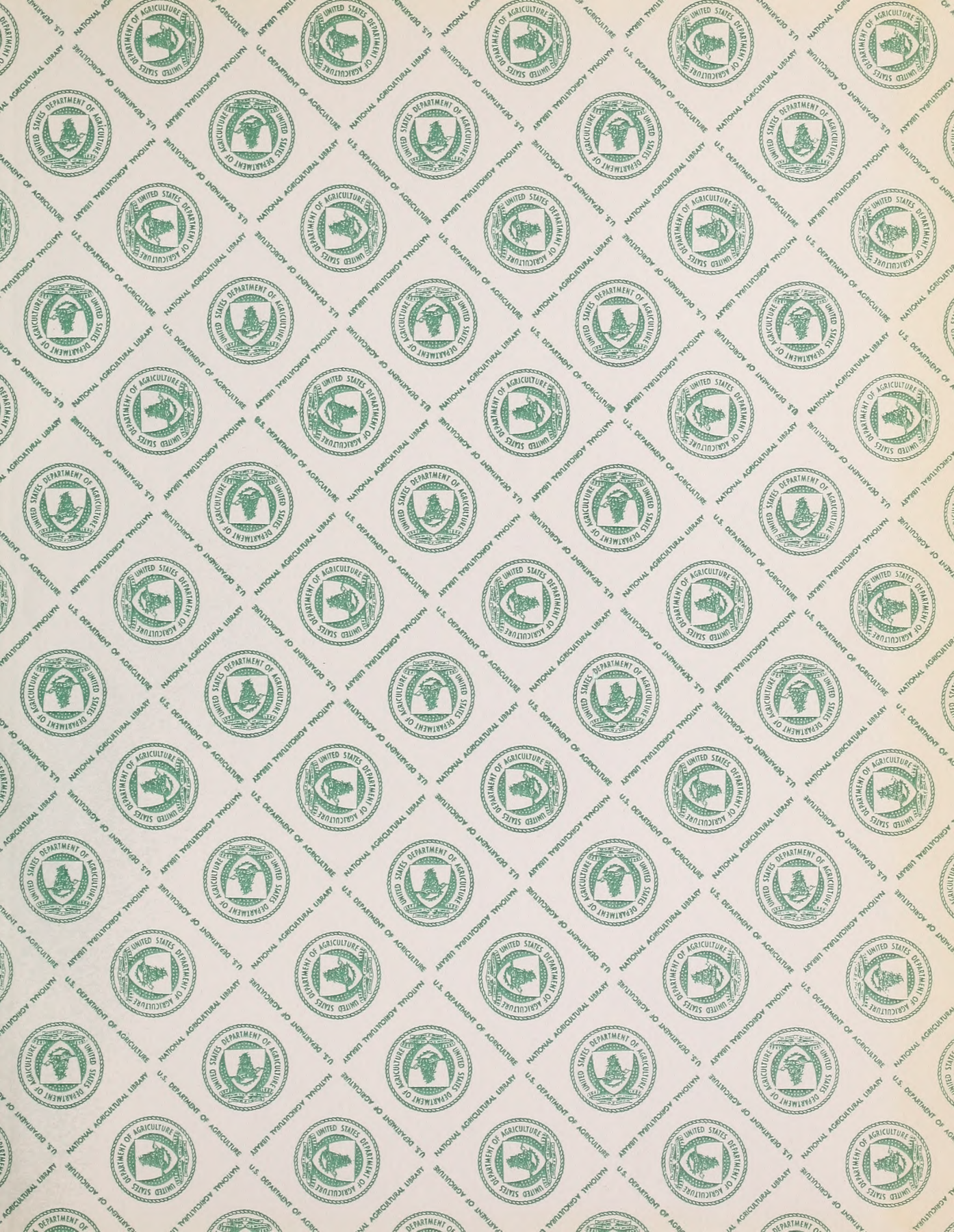


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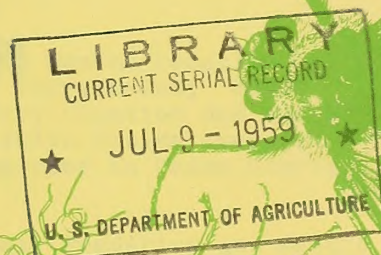




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JULY 3, 1959

Cooperative
**ECONOMIC INSECT
REPORT**



Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS caused severe damage to wheat in several New Mexico counties. Treatments applied to about 60,000 acres of cropland in Curry County, about 183,000 acres of other land treated in Roosevelt and Curry Counties and about 85,000 acres will be treated in Colfax County. Many alfalfa fields averaged 40 per square yard in field and 65 per square yard in margins in Union County, South Dakota. (p. 596).

EUROPEAN CORN BORER infestations heavy in wheat in Talbot, Frederick and Prince Georges Counties, Maryland, and early corn heavily infested in Delaware. (p. 596). BLACK CUTWORM causing most concern of any insect thus far this season in Illinois. (p. 597).

ALFALFA WEEVIL extremely abundant most areas in Colorado. (p. 599).

DOUGLAS-FIR TUSSOCK MOTH heavy and damaging white fir on 18,000 acres in Cibola National Forest and 1,500 acres in Lincoln National Forest, New Mexico. Control underway. (p. 607).

HORN FLIES increasing in Oklahoma and DEER FLIES are abundant over New Jersey. (p. 610).

INSECT DETECTION: Southwestern corn borer collected for first time in Mississippi. (p. 599). A May beetle (Phyllophaga aeruginosa) discovered at Miami, Florida; first record in the United States. (p. 598). European pine sawfly collected for first time in Iowa. (p. 608). Apanteles fumiferana recorded in Pennsylvania for first time. (p. 611). New county records in California were Apterona crenulella in Butte County (p. 608) and brown-headed ash sawfly in Mariposa County (p. 609).

CORRECTIONS (p. 612).

ADDITIONAL NOTES (p. 612).

Reports in this issue are for the week ending June 26, unless otherwise designated.

WEATHER OF THE WEEK ENDING JUNE 29

Temperatures this week averaged generally near seasonal over most of the Nation. The northern tier of states, from the western Great Lakes to the Pacific Northwest experienced a cooling trend throughout the week, and by Monday cooler air reached southward to northern sections of California and Colorado and to the Great Lakes. Minimum temperatures over the northern Great Plains on Sunday and Monday generally reached the 40's and 50's, while maxima in the 50's and 60's were reported. Coastal New England was cooled by cloudy, showery weather in maritime air from the Atlantic, while widespread cloudiness and moderate to heavy rainfall held

(Weather continued on page 605)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - NEW MEXICO - Caused severe damage to wheat in Roosevelt, Curry, Quay, Harding, Lea and Colfax Counties. About 60,000 acres of cropland treated in Curry County with about 183,000 acres of other land treated in Roosevelt and Curry Counties. About 85,000 acres of rangeland will be treated in Colfax County. (N. M. Coop. Rpt.). TEXAS - Several range species, 1-30 per square yard, in fields in 3 panhandle and 3 high plains counties. Infestations 100 per square yard noted on soil bank land. (Russell et al.). Melanoplus differentialis caused heavy damage to several crops in many sections of State. (Tex. Coop. Rpt.). OKLAHOMA - Counts 3-6 per square yard on rangeland in Osage County; dominant species Melanoplus spp., Ageneotettix deorum and Amphitornus coloradus. Counts along crop margins in Tulsa, Rogers and Nowata Counties ranged 2-6 per square yard; dominant species Melanoplus spp. Development ranged 2-4th instars. (Robinson). Counts ranged 1-7 per square yard in pastures and field margins generally in Caddo, Custer, Washita and Kiowa Counties. (Hudson). KANSAS - Average counts of grasshoppers in field margins in southwestern, northwestern and west central counties ranged 1-50 per square yard, averaging 12-15 per square yard. Dominant species M. bivittatus, M. bilituratus and Hesperotettix speciosus. (Peters). WYOMING - Infestation of undetermined species northwest of Meeteetse, Park County, averaged 100 per square yard. About 98 percent in first instar. Area of infestations might be 1,000-5,000 acres. (Spackman). Infestation developing south of Buffalo, Johnson County. Grasshoppers in first, second and third instars. (Davison). Infestation of M. bilituratus, averaging 25-50 per square yard, destroyed first cutting of alfalfa in 40-acre field near Pine Bluffs. (Robb). UTAH - Undetermined species damaging on farms and rangeland in Boulder area of Garfield County. (Knowlton). SOUTH DAKOTA - Many alfalfa fields averaged 40 grasshoppers per square yard in field and 65 per square yard in margins in Union County. (Mast). WISCONSIN - Nymphs of Melanoplus femur-rubrum appear to be in greater numbers and more advanced in Green Lake, Marquette, Waushara, Waupaca and Adams Counties. (Wis. Coop. Sur.). ILLINOIS - Nymphs of undetermined species heavy in localized spots in grassy roadsides, but generally low. (Ill. Ins. Rpt.). LOUISIANA - Melanoplus sp. extremely abundant on grass in corn in St. Landry Parish. Some ragging noted. Neoconocephalus sp. increased on rice in Vermilion Parish. (Spink). MARYLAND - Small nymphs of undetermined species common on alfalfa and red clover in Queen Annes County. (U. Md. Ent. Dept.).

MORMON CRICKET (Anabrus simplex) - UTAH - Baiting complete on 6,000 acres in San Juan County and control is now moving to Daggett County infestation. (Thornley, Knowlton).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW JERSEY - All sweet corn in untreated Cape May County field was damaged. Treated fields quite clean with only light tassel damage. Most larvae in fourth instar. (Ins. Dis. News1.). MARYLAND - Whorl and tassel infestations in sweet corn averaged 20-30 percent in Talbot and Queen Annes Counties. Field corn infestations on Eastern Shore ranged light to moderate generally, with an occasional field over 50 percent infested. Heavy in wheat in Talbot, Frederick and Prince Georges Counties. (U. Md., Ent. Dept.). DELAWARE - Very high infestations noted in all counties in early field and sweet corn. Fourth and fifth-instar larvae very common; tunnelling in main corn stalks noticeable. Adults of first generation probably starting to emerge. (Burbutis). VIRGINIA - Damage to corn heavy in several fields in Prince Edward County and medium in two areas of Albemarle County. (Rowell, Smith, Peery). INDIANA - Populations generally low throughout State. Plants showing whorl feeding range from 1-28 percent. Third-instar larvae observed on early-planted corn in Vigo County. (Matthew, Gould). ILLINOIS - Populations not sufficiently severe to warrant much control in field corn. Sweet corn and seed corn require treatments in some instances. Total egg masses per 100 corn

plants were 73.5 in northwest, 100 in northeast, 41.6 in central and 55 in east. Percent of plants infested by larvae were 35 in northwest, 33.5 in northeast, 23.3 in west, 23.8 in central and 18 in east. (Ill. Ins. Rpt.). WISCONSIN - Few moths appearing and some feeding observed. Egg masses averaged 1 per 25 plants in Dane County. (Wis. Coop. Sur.). MISSOURI - Emergence, egg laying and hatch complete in northern area. Some pupation of first brood noted in southeast. (Kyd, Thomas, Munson). SOUTH DAKOTA - Egg masses per 100 corn plants averaged 4 in Union County and 8 in Clay County. (Mast). Peak oviposition expected during latter part of June and first of July. Serious infestation may develop in eastern area. (Spawn). KANSAS - Corn plants up to 75 percent infested in Riley County and 0-50 percent of sorghum plants in Pottawatomie County infested. (Burkhardt).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSISSIPPI - Moths, reared from pupae in corn, submitted for identification on May 8 were determined by H. W. Capps. Collections were made at Clarksdale, Coahoma County. (Cox, Ingram). This is the first record in the State. (PPC).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Damaged 1.8 percent of corn stalks examined in West Baton Rouge, St. Landry and Lafayette Parishes; 35 percent in 9 Acadia Parish fields; and 0-14 percent in 6 corn fields near Alexandria. Recent feeding signs found in 50 percent of sugarcane fields examined. Second-generation infestations lighter in northern sugarcane area than in southeastern or southwestern areas. Final first-generation counts show at least 500 deadhearts per acre in 47 percent of fields. First-generation borers were about 3 times as abundant in southeastern and southwestern areas as in northern area. (Spink).

SALT-MARSH CATERPILLAR (Estigmene acrea) - DELAWARE - Present on corn in New Castle and Kent and present on soybeans in Sussex Counties. (Burbutis).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Ranged 1-5 per head in grain sorghum in Burleson and Brazos Counties. (Randolph).

CORN EARWORM (Heliothis zea) - NEW JERSEY - About 5 percent of sweet corn silks in Cape May County had eggs on June 23. (Ins. Dis. Newsl.). MARYLAND - Generally light in whorls and tassels of field and sweet corn in Queen Annes County. (U. Md., Ent. Dept.). TEXAS - Averaged 1 per head in grain sorghum in Brazos and Burleson Counties. (Randolph). Heavy feeding in tassels of corn and young ears in many sections of State. (Tex. Coop. Rpt.). OKLAHOMA - Counts ranged 8-20 per 100 corn stalks in Tulsa, Rogers and Nowata Counties. (Ronbinson).

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Few larvae observed in Dodge, Fond du Lac, Outagamie corn fields. (Wis. Coop. Sur.).

BEE T ARMYWORM (Laphygma exigua) - FLORIDA - Infesting about 40 acres of corn in association with L. frugiperda in Zellwood area. L. exigua feeding on silks. This is first State record of L. exigua on corn in State. (Fla. Coop. Sur.).

CUTWORMS (Agrotis spp.) - KANSAS - Damaging corn up to 3 feet tall in Butler, Dickinson, Shawnee and Riley Counties. Most larvae fully grown. (Burkhardt). INDIANA - Causing heavy damage to corn in many fields throughout State. Most larvae in last instar. (Matthew, Everly).

BLACK CUTWORM (Agrotis ypsilon) - ILLINOIS - Causing most concern of any insect thus far this season. Most severe damage to late-planted corn probably occurred in southeastern area. Corn in 2 townships in one county were either completely destroyed or at least stand severely reduced. Outbreak general throughout most of State. Average losses range 15-50 percent in infested fields. (Ill. Ins. Rpt.).

CHINCH BUG (Blissus leucopterus) - SOUTH CAROLINA - With continued dry weather in Piedmont, an increase in activity may be expected. (Nettles et al.).
MISSOURI - Migrations of nymphs and adults from small grain to corn and sorghum occurring throughout northern half of State. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged up to 4 per stalk in corn fields in Tulsa, Rogers and Nowata Counties (Robinson) and 10-15 per grain sorghum stalk in Grady and Caddo Counties (Pennington).

BILLBUGS - SOUTH CAROLINA - Major problem to corn in Florence County despite outstanding results from soil treatments. (Nettles et al.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Generally light on corn in Queen Annes, Wicomico and Worcester Counties. (U. Md., Ent. Dept.). OKLAHOMA - Counts ranged 10-20 per 100 stalks in corn and grain sorghum in Cleveland, Grady and Caddo Counties. (Pennington). DELAWARE - Common to prevalent on corn in most areas. (Burbutis).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - D. longicornis averaged 25 per corn plant in fields planted in corn for 3 or more years in succession. (Wis. Coop. Sur.). ILLINOIS - D. undecimpunctata howardi adults feeding on 0-10 per 100 plants. (Ill. Ins. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Severe on corn in 2 areas of King and Queen County (Sedivy). DELAWARE - Present in corn in Kent and Sussex Counties and very common in one soybean field in Kent County. (Burbutis).
MARYLAND - Light on soybeans in Wicomico, Talbot and Queen Annes Counties. (U. Md., Ent. Dept.).

A MAY BEETLE (Phyllophaga aeruginosa) - FLORIDA - Discovered at Miami and seems to be well established in that area. This species had been known previously only from Cuba where it is listed as a pest of sugarcane in the "white grub" stage. Adults feed on foliage at night and were found feeding on at least 15 species of native and exotic trees in Miami. Damage was quite severe on several hosts. Surveys are being conducted to determine extent of infestation. Over 400 adults were collected in less than one hour on June 16 by hand picking and additional specimens were taken at a blacklight trap. All inspectors in southern part of State are requested to be on alert for these beetles and to check for them at lights at night. (Woodruff).

A WEEVIL (Anacetrinus deplanatus) - TEXAS - Averaged 1-2 larvae per stalk in grain sorghum in McLennan County; 80 percent of stalks infested. (Randolph).

WIREWORMS - MARYLAND - Injury to field corn in eastern Wicomico County has been heavy. Replanting necessary in some fields. (U. Md., Ent. Dept.).

COLASPIS (Colaspis spp.) - ILLINOIS - A Colaspis sp. damaged up to 25 percent of corn plants in upland fields in Monroe County. Infestations general in east, southeast, central and west southwest. (Ill. Ins. Rpt.). MISSOURI - Adults observed on corn, soybeans and alfalfa. Counts 0-2 per foot of row in soybeans and 0-1 per sweep in alfalfa. (Kyd, Thomas, Munson).

THRIPS (undetermined) - MARYLAND - Abundant and causing moderate injury to soybeans in many localities in Wicomico and Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Heavily damaged corn some fields in Augusta and Rockbridge Counties. Infestation fairly general. Damage much less apparent than 7-10 days ago. (Woodside). INDIANA - Causing severe damage to small corn plants many fields in west central area of State. Counts diminishing somewhat in fields of knee-high growth. Controls being applied. (Matthew, Everly). MISSOURI - Damage to seedling corn noted throughout northern half of State. Counts 5-20 per plant on small corn. (Kyd, Thomas, Munson). KANSAS - Causing yellowing of sorghum plants in small areas of western Kansas. (Peters).

A THRIPS (Limothrips sp.) - WYOMING - Small numbers found in small grain fields in Campbell, Crook, Weston and Niobrara Counties. Counts 12-16 per 100 sweeps. (Davison).

STINK BUGS - NEW MEXICO - Thyanta pallidovirens spinosa and Chlorochroa sayi moderately heavy and damaging barley in Lea County. Much lighter in wheat in Curry, Roosevelt, Quay and Harding Counties. (N. M. Coop. Rpt.). TEXAS - Averaged 1-2 per grain sorghum head in Burleson and Brazos Counties, mostly Oebalus pugnax. (Randolph).

GREENBUG (Toxoptera graminum) - WISCONSIN - Reports from 33 counties indicate about 16,635 acres of oats have been treated. (Wis. Coop. Sur.).

A WHEAT APHID (Brachycolus tritici) - NEW MEXICO - Has been serious in several wheat fields in Curry and Roosevelt Counties. (N. M. Coop. Rpt.).

STALK BORER (Papaipema nebris) - PENNSYLVANIA - A 20-percent infestation in wheat reported in Lancaster County. (Udine, June 18).

WHEAT HEAD ARMYWORM (Faronta diffusa) - NEW MEXICO - Averaged about 6 per 100 sweeps in wheat fields near Mosquero, Harding County. (N. M. Coop. Rpt.).

HESSIAN FLY (Phytophaga destructor) - PENNSYLVANIA - Numbers present in wheat in Cumberland County. (Pepper).

BROWN WHEAT MITE (Petrobia latens) - NEW MEXICO - Heavy, damaging alfalfa and barley fields near Artesia in Eddy County. (N. M. Coop. Rpt.).

ALFALFA WEEVIL (Hypera postica) - COLORADO - All stages, extremely abundant most areas; particularly in untreated fields. New areas with heavy infestations of concern to growers. Parasitism by Bathyplectes curculionis as high as 50 percent in areas where species has been present for number of years. (Col. Ins. Sur.). WYOMING - Larvae averaged 400-500 per 100 sweeps in unsprayed alfalfa field in Platte County and 1000 per 100 sweeps in unsprayed field in Crook County. Damage was 25 and 30 percent respectively. Little or no damage observed in other fields checked in Lincoln, Platte, Campbell, Weston, Niobrara and Goshen Counties. (Davison). IDAHO - A 200-acre alfalfa field in Caribou County showing severe larval feeding damage. Larval injury present in many Bingham and Power County alfalfa fields. (Bishop).

ALFALFA LOOPER (Autographa californica) - WASHINGTON - Averaged 5 per 25 sweeps in red clover seed fields near Quincy; approximately 20 percent infested with granulosis virus disease. (Johansen).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - WYOMING - Larvae ranged 0-15 per 100 sweeps near Gillette, Campbell County. Little damage noted. (Davison).

A CLOVER BUD CATERPILLAR (Grapholitha conversana) - IDAHO - Half-grown larvae present in red clover heads from Grangeville and white clover heads from Donnelly. Infestations general with little damage evident. (Cook, Greenwell).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - DELAWARE - Larvae, first of season, found in one alfalfa field in Kent County. (Burbutis).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - TEXAS - Ranged 5-10 per sweep in alfalfa in Burleson and Brazos Counties; causing some damage. (Randolph).

FALSE CHINCH BUGS (Nysius spp.) - SOUTH DAKOTA - Counts as high as 6 per 10 sweeps in alfalfa and sweetclover in southeast area. (Mast). UTAH - Moderately numerous on alfalfa at Price, Ferron and Salina. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Averaged 2 per sweep on alfalfa in Montgomery County and less than one per sweep in Carroll and Queen Annes Counties. (U. Md., Ent. Dept.). VIRGINIA - Building up on alfalfa some areas of State. (Morris). MISSOURI - Counts in alfalfa 6-8 per sweep in heavier fields in southeast and 0-12 per sweep in east central area. (Kyd, Thomas, Munson). WISCONSIN - Adults ranged 2-17 per sweep in alfalfa regrowth in Dane, Dodge and Fond du Lac Counties. Adults and nymphs found most uncut alfalfa fields in State. (Wis. Coop. Sur.). ILLINOIS - Adults averaged 523 and nymphs 229 per 100 sweeps in clover and alfalfa fields in northern half of State. (Ill. Ins. Rpt.). DELAWARE - Common to prevalent on clover and alfalfa in New Castle and Kent Counties. Becoming common on soybeans in Kent and Sussex Counties. (Burbutis).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Heaviest in blooming alfalfa fields near Estancia, Torrance County. Averaged about 6 adults and 45 nymphs per sweep. Growers treating alfalfa which is to be used for seed. Counts in these fields averaged less than 1 per 25 sweeps. (N. M. Coop. Rpt.). WYOMING - Present in all alfalfa fields in western and northeastern areas. Populations 4-40 per 100 sweeps in hay fields. (Davison). OKLAHOMA - Counts 4-6 per sweep in alfalfa in Bryan and Love Counties. (Vinson).

TARNISHED PLANT BUG (Lygus lineolaris) - MARYLAND - Common in Queen Annes County. (U. Md., Ent. Dept.). DELAWARE - Nymphs and adults present to abundant on alfalfa, clover and soybeans in areas of State. (Burbutis).

RAPID PLANT BUG (Adelphocoris rapidus) - DELAWARE - Nymphs present to common on alfalfa in New Castle and Kent Counties, very common on clover in New Castle County and becoming abundant on soybeans in Sussex County. (Burbutis).

PEA APHID (Macrosiphum pisi) - NEW MEXICO - Apparently light throughout State. (N. M. Coop. Rpt.). WYOMING - Counts per 100 sweeps were 60 in southern Lincoln County, 75 in northern Lincoln County, 20-40 in Platte County, 30 in Crook County and 800 in Goshen County. No damage observed. (Davison). OKLAHOMA - Counts 2-6 per sweep in alfalfa in Bryan and Love Counties. (Vinson). IDAHO - About 200 per sweep in alfalfa west of Idaho Falls. Populations in Bonneville County greater than normal this season. (Kohl). Populations 5-25 per sweep in alfalfa in Bingham and Power Counties. (Bishop).

SPOTTED ALFALFA APHID (Therioaphis maculata) - COLORADO - Reported along lower Colorado River in Mack, Loma and Fruita areas of Mesa County, in Montezuma County and the Arkansas River drainage. None observed in northeastern area to June 24. (Colo. Ins. Sur.). VIRGINIA - Damaging populations expected in several areas if hot, dry weather continues. (Morris). ILLINOIS - Counts 10 per 100 sweeps in alfalfa field near Havana. (Ill. Ins. Rpt.). OKLAHOMA - Counts 4-30 in alfalfa in Bryan and Love Counties (Vinson) and 2.5-3.5 per sweep in Custer and Kiowa Counties (Hudson). KANSAS - Few found in alfalfa field in Haskell County. (Peters).

SWEETCLOVER APHID (Myzocallidium riehmii) - VIRGINIA - Collected from sweetclover in Newport News dock area. Det. L. M. Russell. New area record for State. (Gentry).

YELLOW CLOVER APHID (Therioaphis trifolii) - DELAWARE - Fairly common in clover in Kent County. (Burbutis).

CLOVER APHID (Anuraphis bakeri) - WASHINGTON - Increased 10-fold in red clover fields near Quincy during past 2 weeks, up to 40 per 10 heads. Fields vary because cutting dates were up to 4 weeks apart. (Johansen).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Moderate injury to soybeans noted in Wicomico County. (U. Md., Ent. Dept.). ILLINOIS - Adults averaged 17 per 100 sweeps in soybean fields in northern half of State. (Ill. Ins. Rpt.). DELAWARE - Common to numerous on soybeans in Sussex County, causing moderate feeding injury some fields. (Burbutis).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Fairly heavy populations throughout State on soybeans. Some damage to cowpeas noted in Pee Dee area. (Nettles et al.). NEW MEXICO - Becoming a problem on beans in Estancia Valley, Torrance County. Treatment necessary many fields. (N. M. Coop. Rpt.). DELAWARE - Present to common on soybeans in Kent and Sussex Counties, causing increased feeding injury some fields. (Burbutis).

PALE-STRIPED FLEA BEETLE (Systema blanda) - DELAWARE - Present to common on soybeans in Kent and Sussex Counties. Present to common on legumes in Kent and New Castle Counties. (Burbutis).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Very common to abundant on soybeans in Sussex County. Also present on alfalfa in New Castle County. (Burbutis).

MITES (undetermined) - MARYLAND - Spider mites heavy and injuring outer rows of soybeans at Easton, Talbot County. (U Md., Ent. Dept.). TEXAS - "Firing" grain sorghum severely in Willacy and Hidalgo Counties. (Deer).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW JERSEY - First-brood entries past peak in southern and central areas. (Ins. Dis. Newsl.). VIRGINIA - First brood still active in northern area apple orchards. Infestations normal to slightly heavy at present. (Hill). INDIANA - No adults have emerged from overwintering larvae in emergence cages since June 14 in Vincennes area. A few early first-brood larvae had begun to leave apples to pupate for second brood, June 18. (Hamilton). A few adults still emerging from packing houses in Orleans area. (Marshall). MICHIGAN - Spring adult activity is at peak. (Hutson, June 24). MISSOURI - New entries noted in Cape Girardeau area June 21. Young larvae found in Sedalia and Lees Summit on unsprayed apples. Indications are there will probably be continuous emergence the rest of the season. (Wkly. Rpt. Fr. Grs.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MICHIGAN - First brood 85 percent pupated in vicinity of Coloma, Watervliet, Stevensville, Sodus and Benton Harbor, June 15. (Hutson). ILLINOIS - Peak of second-brood hatch has occurred in Carbondale area. (Meyer). VIRGINIA - Heavy in some apple orchards in northern area. (Hill). MISSOURI - Considerable numbers in south central area. (Wkly. Rpt. Fr. Grs.).

FRUIT TREE LEAF ROLLER (Archips argyrospila) - NEW MEXICO - Severely defoliated apple trees at Taos, Taos County. (N. M. Coop. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Severe on fruit trees in King and Queen County. (Sedivy).

EUROPEAN RED MITE (Panonychus ulmi) - ILLINOIS - Counts from a block of apple trees at Belleville were 5 per 100 leaves, June 2; 206 per 100 leaves, June 15; 1,000 per 100 leaves, June 23. Populations range from zero to destructive numbers over the State. (Meyer). VIRGINIA - Heavy in localized areas in northern area orchards but generally lighter than usual. (Hill). PENNSYLVANIA - Caused some browning of leaves in some Huntingdon County apple orchards. (Udine).

SPIDER MITES (Tetranychus spp.) - NEW MEXICO - Mostly light to moderate with occasional heavy infestation in apple orchards in Rio Arriba, Bernalillo, Sandoval, Lincoln and De Baca Counties. (N. M. Coop. Rpt.). SOUTH CAROLINA - T. telarius building up on apples near Walhalla. Heavy on peaches and causing damage in Edgefield County. (Nettles et al.). MISSOURI - T. telarius few to numerous nearly all apple and peach orchards statewide. (Wkly. Rpt. Fr. Grs.).

APPLE APHID (Aphis pomi) - VIRGINIA - Very heavy in northern area apple orchards around first of June, but have now fallen off some. (Hill). MISSOURI - Light to numerous on water sprouts of apple trees statewide. (Wkly. Rpt. Fr. Grs.).

ROSY APPLE APHID (Anuraphis roseus) - NEW MEXICO - Spotty, heavy infestations in several orchards in Taos County. (N. M. Coop. Rpt.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Many moderate to heavy infestations in apple orchards in Lincoln, Rio Arriba, Taos, Sandoval and Bernalillo Counties. (N. M. Coop. Rpt.).

CURRENT FRUIT FLY (Epochra canadensis) - CALIFORNIA - Heavy on currants in Willow Creek area of Humboldt County. (Cal. Coop. Rpt.).

HALL SCALE (Nilotaspis halli) - CALIFORNIA - Inspections during May were carried on in the Rath area and the community of Paradise in Butte County and Davis, Yolo County. The third and final survey of Davis was initiated during May. All dooryard hosts within a half-mile radius of the earlier infestation are being examined. The 14 treated blocks will be given a post-fumigation inspection, which will complete the planned inspection of Davis. Inspections during May have revealed no live Hall scale. (PPC, West. Reg.).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - MICHIGAN - Numerous in southern area to as far north as Grand Rapids. (Hutson).

GREEN PEACH APHID (Myzus persicae) - IDAHO - Movement of spring migrants from peach trees in upper Snake River Valley nearly complete. Still moderate on some apricot trees in this area. (Bishop).

BLACK PEACH APHID (Anuraphis persicae-niger) - NEW MEXICO - Heavy on peach trees at Riveonada, Rio Arriba County. (N. M. Coop. Rpt.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MICHIGAN - Damage from first-brood larvae ceased. (Hutson, June 24). ILLINOIS - Much of second-brood attack is over and generally under control in Carbondale area. (Meyer). MISSOURI - Numerous on peaches in Campbell area, June 19. (Wkly. Rpt. Fr. Grs.).

WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - CALIFORNIA - By the end of May, 1,871 traps were in operation in Siskiyou, Humboldt and margins of Trinity Counties. During May, 601 host trees were removed. (Cal. Coop. Rpt., May Sum.).

FALL WEBWORM (Hyphantria cunea) - LOUISIANA - Infesting pecans generally throughout State. (Spink). GEORGIA - Larval nests beginning to show up on pecan trees in Athens area. (Snapp). NORTH CAROLINA - Skeletonizing and webbing apple foliage in Randolph County. (Stallings, Rabb).

WALNUT CATERPILLAR (Datana integerrima) - LOUISIANA - Doing some damage to pecan trees in the greater New Orleans area. (Spink).

ORANGE-DOG (Papilio cresphontes) - TEXAS - Larvae feeding on leaves of orange trees in Ft. Bend County. (Turney).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Now occurring farther north than previously and is developing into a serious problem in central area. (Cal. Coop. Rpt., May Sum.) LOUISIANA - Still heavily infesting citrus in Plaquemines Parish. (Spink).

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Serious on citrus in West Sacramento, Yolo County, during May. Light to heavy in San Bernardino County and trace to light in Riverside and Orange Counties. (Cal. Coop. Rpt., May Sum.).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - Light to heavy on citrus and several weeks ahead of normal. Heavier than for many years and increasing because of lack of parasitism in Orange County. (Cal. Coop. Rpt., May Sum.).

ORANGE TORTRIX (Argyrotaenia citrana) - CALIFORNIA - Moderate in 450 acres of bushberries and 13,000 acres of prunes in the Sebastopol area of Sonoma County. Infestation heavier than normal this year. (Cal. Coop. Rpt.).

A HORNTAIL (Hartigia cressonii) - CALIFORNIA - Moderate on blackberry plants in Jackson, Amador County. Damage very annoying to home gardeners in many locations of State. (Cal. Coop. Rpt.).

BLUEBERRY MAGGOT (Rhagoletis pomonella) - NEW JERSEY - Adult population very heavy in the Atlantic County area and ready to begin ovipositing. Traps there caught 675 flies through June 20 of this year, compared with 177 through July 4 of 1958. (Ins. Dis. Newsl.).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - IDAHO - Adult population several times greater this season in the Moscow area than during the past five years. Adults present in most upper Snake River Valley fields. Oviposition starting. Populations much higher at present than past two seasons. (Fitzgerald, Portman, Manning, Bishop).

POTATO FLEA BEETLE (Epitrix cucumeris) - DELAWARE - Abundant several large potato fields New Castle County; rather heavy injury. Present to common in potatoes in Kent County. (Burbutis, Conrad). WISCONSIN - Declining moderate to heavy populations several counties. (Wis. Coop. Sur.).

BLISTER BEETLES - NEW MEXICO - Moderately heavy and damaging potatoes near Lovington, Lea County. (N. M. Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - Common to very abundant, several large potato fields, Kent and New Castle Counties. (Burbutis).

GREEN PEACH APHID (Myzus persicae) - WASHINGTON - Moderate to heavy on potatoes and weeds in Yakima County. (Landis). MARYLAND - Increasing on peppers in northern Worcester County. Light in other sections. (U. Md., Ent. Dept.).

POTATO APHID (Macrosiphum solanifolii) - NEW JERSEY - Moderate on tomatoes in Delaware River areas. (Ins. Dis. Newsl.).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Adults and nymphs abundant on potatoes at Easton; hopperburn evident. Light on beans in same area. (U. Md., Ent. Dept.). SOUTH DAKOTA - Large numbers in Brookings County; potato plants showing signs of burning. (Severin). DELAWARE - Present to common on beans in Sussex County and potatoes in New Castle and Kent Counties. (Burbutis).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Light on potatoes in southeastern area but fairly heavy in the Oneida County area. (Wis. Coop. Sur.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Continues high on lycium in Prowers, Bent, Otero and Pueblo Counties. Tomatoes infested and symptoms of yellows appearing in tomato patches in Larimer and Weld Counties. (Daniels). WYOMING - Occurred at the following rates per 100 sweeps on matrimonyvine: 2 at Pine Bluffs, 26 at Torrington and 4 at Douglas. (Robb, Davison)

POTATO TUBERWORM (Gnorimoschema operculella) - CALIFORNIA - Moderate on potatoes in Castroville area of Monterey County. (Cal. Coop. Rpt.).

GOLDEN NEMATODE (Heterodera rostochiensis) - Survey was begun in ARIZONA late in May in the potato-growing areas. Collecting of soil samples will continue during most of June in Maricopa, Pinal and Yuma Counties. When ARIZONA work is completed, it will terminate the survey for the Western Region that was begun in 1958. (PPC. West. Reg.).

AN APHID (Cavariella aegopodii) - CALIFORNIA - Moderate on carrots in Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) - CALIFORNIA - Damaged 15-20 percent of artichoke buds in San Mateo County. (Cal. Coop. Rpt., May Sum.).

BET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - The spring campaign was concluded the first of May with the treatment of 170 acres of second-generation leafhoppers which averaged 6-10 per 10 sweeps in Corral Hollow Canyon west of Tracy. This brought the total acres treated to 8,610. The survey in other areas showed from 0-3 per 10 sweeps in the Sacramento Valley, 1-4 per 100 sweeps Stockton to Newman, and Merced through Kern Counties showed no build up. An occasional leafhopper was found in the Santa Clara and Salinas Valleys, 1-4 per 100 sweeps in the Santa Maria Valley and 3 per 100 sweeps in the Tehachapi area. Winter vegetation now dried completely and no more migrations are expected from the breeding grounds. Final readings of virus tests of natural infectivity of leafhoppers collected in the breeding grounds are Big Panoche Canyon, 5 percent; Jacalitos Canyon, zero; Derby Acres, 38.2 percent; Edison Hills, zero; Corral Hollow, zero; and stock beets in Imperial Valley, 75.9 percent. (Cal. Coop. Rpt., May Sum.).

BET WEBWORM (Loxostege sticticalis) - COLORADO - Egg deposition on lettuce in Costilla and Alamosa Counties is of concern. (Daniels). UTAH - Still below normal in abundance and damage in central and northern areas. (Knowlton). IDAHO - Eggs being laid with some hatching at Idaho Falls. (Kohl).

THRIPS - NEW MEXICO - Heavy and damaging onions in Lea County. (N. M. Coop. Rpt.).

PEA APHID (Macrosiphum pisi) - WISCONSIN - Buildup in late peas has been slow in most areas. (Wis. Coop. Sur.). IDAHO - Light to scattered spots of heavy infestations on peas in Latah and Nez Perce Counties. Almost nonexistent in later maturing pea fields. (Futter, Kambitsch, Portman).

PLANT BUGS - DELAWARE - Adelphocoris rapidus and Lygus lineolaris common to abundant several bean fields in Sussex County and L. lineolaris prevalent on cucumbers and lettuce in Kent County. (Burbutis, Conrad).

HARLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Very heavy and damaging fields of cabbage in Lea and Valencia Counties. (N. M. Coop. Rpt.).

CABBAGE MAGGOT (Hylemya brassicae) - CALIFORNIA - Moderate to severe on crucifers in Eureka area, Humboldt County. (Cal. Coop. Rpt., May Sum.). WISCONSIN - As serious on cabbage as has been observed in nearly a decade. (Wis. Coop. Sur.).

A CHRYSOMELID BEETLE (Lema californica) - CALIFORNIA - Heavy on Datura sp. in El Cajon, San Diego County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults increasing on tobacco in Calvert and Prince Georges Counties. (U. Md., Ent. Dept.). VIRGINIA - Moderate in several fields in Pittsylvania County. (Dominick).

WIREWORMS - SOUTH CAROLINA - Damage unusually heavy on tobacco in Williamsburg County. (Nettles et al.).

HORNWORMS (*Protoparce* spp.) - MARYLAND - Continue to increase on tobacco in Calvert and Prince Georges Counties. (U. Md., Ent. Dept.). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

TOBACCO BUDWORMS (*Heliothis* spp.) - MARYLAND - *H. virescens* infestations averaged 4 percent on tobacco in southern Prince Georges County. (U. Md., Ent. Dept.). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

GREEN PEACH APHID (*Myzus persicae*) - MARYLAND - Light to date on tobacco in southern area. (U. Md., Ent. Dept.). VIRGINIA - Light to moderate on tobacco in Pittsylvania County. (Dominick). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

(Weather continued from page 595)

temperatures below average in the Texas-Oklahoma area. Above-normal temperatures for the week extended from the Far Southwest through the central Great Plains, the middle Mississippi and Ohio Valleys to the Middle and South Atlantic States. In the Middle Atlantic States a warming trend brought the hottest weather of the season, with humid days and warm nights. Afternoon temperatures of 100° were felt in central North Carolina and Maryland, and 90° readings extended to New York and into northern Vermont. Warm, humid weather from the Appalachians to the Rockies over the middle of the country produced the warmest week of the season in Indiana, Tennessee and Arkansas, and temperatures exceeded 100° on a few afternoons in western Kansas. In the West 90° temperatures extended to central Oregon and the northern Plateau at midweek, while readings reached well over 100° from interior California to southwest Texas, with Thermal, California, reporting 117°; Roswell, New Mexico, 110°; and Laredo, Texas, 101°.

Heaviest precipitation during the week was centered over wide areas from the southern Great Plains northeastward to southern New England and over the northern Great Plains and the upper Mississippi Valley. Although local rains up to 12 inches produced flash flooding on the Edwards Plateau in Texas, general showers from the lower Great Plains to the Ohio Valley were very beneficial. Moderate to heavy rains from Montana to Wisconsin and northern Illinois and Indiana brought relief from the dry spell, greatly improved soil moisture and benefited crops. Widely scattered but generally light showers and thunderstorms occurred in the Rocky Mountains, the Plateau and the Pacific Northwest. Amounts were generally below 1/2 inch, except in local areas of Utah, Wyoming and Idaho. No rains of consequence was reported from central California eastward to New Mexico, but conditions in irrigated sections are mostly favorable for rapid crop development. However, ranges are very short. In the Southeastern States light to moderate showers provided local moisture, but many areas from Alabama to the Virginias report soil-moisture deficits and a definite need for general rains. (Summary supplied by U. S. Weather Bureau.)

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Generally puncturing squares in Florence area. Occasional first-generation weevil in older cotton. (Fye et al.). Average infestation in treated fields, 4 percent; untreated, 13 percent. (Cott. Letter). TENNESSEE - Conditions favorable for buildup in southwestern counties. Heaviest concentration of weevils in smaller fields. (Locke). LOUISIANA - In 2 fields in Tensas Parish square infestation average 18 and 29 percent; in 3 presquaring fields there were 1 to 3 per 100 feet of row. (Spink). Population counts made in 59 fields in Tallulah area, 38 infested, average of 124 weevils per acre. Square inspection in 60 fields, all infested, average infestation 18 percent. Only a few farmers treating for boll weevil. (Smith et al.). MISSISSIPPI - Very light hatch expected in delta counties. Average square infestation 2.6 percent. (Merkl et al.). ARKANSAS - Statewide cotton insect situation looks good. Weevil infestation varies from field to field. First-generation weevils emerging in extreme southeast. (Ark. Ins. Rpt.). TEXAS - In Waco area infestations average 37 percent in 6 untreated and 8.5 percent in 25 treated fields. First-generation weevils appearing and weather favorable for development. (Parenacia et al.). OKLAHOMA - Nine to 30 percent of squares punctured in fields checked in McCurtain County; no adults noted. (Goin). Punctured squares ranged from 0-4 per plant in Bryan, Marshall and Love Counties. (Vinson). MISSOURI - First evidence of boll weevil in Dunklin County this season; 6 fields had 1.5 punctured squares along margins. (Kyd, Thomas, Munson).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - No major damage reported in Florence area. Moth catches lighter than in 1958. (Fye et al.). TENNESSEE - Eggs increasing and some injury in western area. Predators very numerous. (Locke). LOUISIANA - Eggs averaged 2 per 100 terminals in 3 fields in Rapides Parish. (Spink). Average square infestation of 3 percent in 58 of 60 fields examined in Tallulah area. (Smith et al.). MISSISSIPPI - Moth catches low and egg deposition light in delta cotton. (Merkl et al.). ARKANSAS - Egg numbers lighter than last week. Predators controlling infestations in many areas. (Ark. Ins. Rpt.). TEXAS - Infestations increasing in Waco areas but egg deposition has not been heavy. Eggs averaged 4.4 and larvae 1.7 per 100 terminals in 39 fields. (Parenacia et al.). OKLAHOMA - One to 5 eggs per stalk in McCurtain County. (Goin). MISSOURI - Of 730 fields scouted, 139 had light egg and larval counts, 0-5 eggs and 0-7 larvae per 100 terminals. (Kyd, Thomas, Munson). NEW MEXICO - Damage in Chaves and Eddy Counties. (N. M. Coop. Rpt.). CALIFORNIA - Medium infestation in Winterhaven area of Imperial County. (Cal. Coop. Rpt.).

SPIDER MITES - SOUTH CAROLINA - Reported from Dillon, Edgefield and Anderson Counties. (Cott. Letter). TENNESSEE - Some light infestations in western area. (Locke). MISSOURI - Marginal or small spots in 196 of 730 fields examined. (Kyd, Thomas, Munson). CALIFORNIA - Becoming serious in many fields in San Joaquin Valley, serious defoliation in some fields. (Leigh). Generally low in Imperial County. (Schulback). General in Fresno County. (Stromberg). Tetranychus pacificus, T. telarius, and T. atlanticus showing in many fields in Kern County. (Leigh, Beards).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - The 1959 aerial treatment program for eradication of pink bollworm from approximately 75,000 acres of cotton in Maricopa, Pinal, Pima and Graham Counties got underway on May 15. By end of May, there were 113 argon and blacklight traps in operation. One moth was taken May 8 in trap located in vicinity of Peoria, Maricopa County. CALIFORNIA - Total of 72 traps placed in operation in San Bernardino, Imperial, Riverside and San Diego Counties during May. Traps were inspected 640 times with negative results. (PPC, West. Reg., May Rpt.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Becoming a problem in cotton in Eddy and Chaves Counties. (N. M. Coop. Rpt.). CALIFORNIA - Generally low in Kern and Imperial Counties. (Leigh, Beards, Schulback).

TARNISHED PLANT BUG (Lygus lineolaris)-LOUISIANA - Sweeping in 32 fields in Tallulah area showed 4 per 100 sweeps. (Smith et al.). MISSISSIPPI - Remains number one cotton insect problem in delta counties. Counts in untreated fields ranged from 8-26 per 100 sweeps. Loss of early squares heavy in many untreated fields. (Merkl et al.). MISSOURI - Plant bugs, mainly this species, ranged from 1 to 9 per 100 terminals. (Kyd, Thomas, Munson).

COTTON SQUARE BORER (Strymon melinus) - NEW MEXICO - Destroying terminals in Eddy and Chaves Counties. (N. M. Coop. Rpt.).

COTTON FLEAHOPPER (Psallus seriatus) - NEW MEXICO - Beginning to build up in Chaves, Eddy and Lea Counties. (N. M. Coop. Rpt.)

GRASSHOPPERS - NEW MEXICO - Damaging cotton on borders of fields in Lea and Roosevelt Counties. (N. M. Coop. Rpt.).

BEET ARMYWORM (Laphygma exigua) - CALIFORNIA - Medium infestations in blossoms in areas of Imperial County. (Cal. Coop. Rpt.).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Heavy in Heber area. (Cal. Coop. Rpt.).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Light populations in several areas. (Pennington et al.). NEW MEXICO - Heavy near Mesilla Park, Dona Ana County. (N. M. Coop. Rpt.).

A COLASPIS - TENNESSEE - Damaging foliage and squares in northwest part of cotton-growing area. Controls needed in many fields. (Locke).

A STALK BORER - TENNESSEE - Damage unusually heavy along margins of cotton fields. (Locke).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - NEW MEXICO - Heavy infestations damaging white fir on 18,000 acres in Sandia Mountains, Cibola National Forest, and 1,500 acres in Lincoln National Forest, near Capitan, Lincoln County. Control underway. (N. M. Coop. Rpt.).

A FIR LOOPER (Galenara consimilis) - NEW MEXICO - Damaging about 1,500 acres of white fir in Lincoln National Forest. (N. M. Coop. Rpt.).

AN OLETHREUTID (Eucosma gloriola) - PENNSYLVANIA - Very light on Scotch, Austrian and red pines and Douglas-fir in Schuylkill County. Scotch and white pines in Berks County one-third to one-half infested. (Drooz). Heavy infestation in a 4-year-old Scotch pine plantation in Juniata County, where planting was done poorly, resulting in uneven growth. (Udine).

PINE CHAFER (Anomala obliqua) - PENNSYLVANIA - Averaged about 2 per tree in a 4-year-old Scotch pine plantation where planting was poorly done, resulting in uneven growth. (Udine).

SPITTLEBUGS (Aphrophora spp.) - MICHIGAN - Nymphs of A. parallela are in fifth instar and those of A. saratogensis in the fourth instar in Cheboygan County, June 16. (Hutson). WISCONSIN - A. parallela nymphs maturing and adult emergence underway in northwest area on June 19. Hatching of A. saratogensis apparently successful in northeast area. Locally heavy infestations expected in parts of Vilas and Marinette Counties. (Wis. Coop. Sur.).

BALSAM WOOLLY APHID (Chermes piceae) - VIRGINIA - Survey on Frazer fir on Mt. Rogers in southwest part of State was negative. (Nagel).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - IOWA - Larvae collected in Scott and Mahaska Counties, week ending June 1, constitute a new State record for this species. Det. B. D. Burks. (Iowa Ins. Inf., PPC). PENNSYLVANIA - Light infestation on Scotch pine in Juniata County. (Udine).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MICHIGAN - Larvae hatching in Cheboygan County, June 16, but not in Otsego County June 18. (Hutson). WISCONSIN - Still in larval stage in Sauk County, but adults were flying in Columbia County June 19. (Wis. Coop. Sur.).

JUNIPER WEBWORM (Dichomeris marginella) - NEW JERSEY - Damage is beginning to appear. (Ins. Dis. Newsl.). VIRGINIA - Damaging junipers locally in Spotsylvania County. (Rowell, Kash).

FALL CANKERWORM (Alsophila pometaria) - VIRGINIA - This species, in combination with Erannis tiliaria and Phigalia titea, caused some defoliation of hardwoods on 1,500 acres near Burkes Garden, Tazewell County. (Nagel).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - During the third week of June, 10,500 traps were placed in eastern and central area. Seventeen counties involving 8,662 square miles are included in the survey. No infestations are known to exist in the State. (Nichols).

TENT CATERPILLARS (Malacosoma spp.) - COLORADO - Infestations of M. fragilis and M. disstria observed in foothills in eastern areas. Control measures being initiated by Forest Service in some mountain park areas around Denver. (Colo. Ins. Sur.). NEW MEXICO - M. fragilis infestations damaging several thousand acres of aspen stands on Carson and Santa Fe National Forests in northern part of State. (N. M. Coop. Rpt.). UTAH - Unspecified species still causing some damage to shade trees, ornamentals and chokecherry in Morgan and Weber Counties. (Knowlton). DELAWARE - Fresh egg masses of M. americanum very abundant on wild cherry in New Castle County. (Burbutis).

BAGWORM (Thyridopteryx ephemeraeformis) - DELAWARE - Common on several hosts in New Castle County and infesting mimosa in Kent County. (Burbutis). MARYLAND - Heavy on junipers in Talbot County. (U. Md., Ent. Dept.).

A BAGWORM (Apterona crenulella) - CALIFORNIA - Medium on buckbrush (Ceanothus cuneatus) in Paradise area, Butte County. This is a first record for the county and represents an extension for this species. (Cal. Coop. Rpt.)

MIMOSA WEBWORM (Homadaula albizziae) - TENNESSEE - Becoming heavy in eastern part of the State. (Mullett). MARYLAND - Injury noted on honeylocust in Talbot County. (U. Md., Ent. Dept.). DELAWARE - Larvae on mimosa in Kent and New Castle Counties. (Burbutis). PENNSYLVANIA - Larvae plentiful on honeylocust in York County. (Negley). NORTH CAROLINA - Several infestations on honeylocust in Wake County. (Keller).

ELM CALLIGRAPH (Calligrapha scalaris) - OKLAHOMA - Moderate to heavy on some American elms in Stillwater area (Price) and averaged 5 per 100 leaves on elms at Minco, Grady County. (Pennington).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Adults ranged 5-15 and larvae averaged 10 per 100 leaves on elms at Minco, Grady County (Pennington). Second-generation larvae appearing in Stillwater area and first-generation adults continue to emerge. (Price).

IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) - PENNSYLVANIA - Very heavy leaf skeletonizing on all willows along streams and roadsides in Juniata County. Adults present. (Udine). NORTH CAROLINA - Adults taken on black willow in Wake County, which is a new record this far east in State. (Weisman).

A LEAF BEETLE (Anomoea hoegei) - OKLAHOMA - Medium on mimosa trees in Pauls Valley area and light on some mimosas in Oklahoma City area. (McLemore, Bower).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - First positive case of Dutch elm disease, carried by this species, for Columbia County. Diagnosed from a tree at Portage. Since the disease was first found in the State, in 1956, cases have been found in 12 southeastern counties. (Wis. Coop. Sur.). SOUTH DAKOTA - Working on elms in Oakwood State Park, Brookings County. (Severin).

LACE BUGS (Corythucha spp.) - MARYLAND - C. arcuata injuring foliage of white oaks at several Prince Georges County localities. (U. Md., Ent. Dept.). OKLAHOMA - Nymphs, probably C. cydoniae, heavy on pyracantha in Stillwater area. (Price).

BROWN-HEADED ASH SAWFLY (Tomostethus multicinctus) - CALIFORNIA - Many ash trees defoliated along Merced River above Briceburg. First record for Mariposa County. (Cal. Coop. Rpt., May Sum.).

APHIDS - VIRGINIA - Prociphilus tessellatus continued very heavy on maples in all parts of the State. (Morris). OKLAHOMA - Periphyllus populicola heavy on small cottonwood trees in Yuba area, Bryan County. (Vinson). UTAH - Eriosoma americanum numerous in Salt Lake City-Murray area, Salt Lake County. (Knowlton).

APHIDS (undetermined) - NEW JERSEY - Observed to be heavy on chrysanthemums. (Ins. Dis. Newsl.). VIRGINIA - Light on branches of maples in Nottoway County (Rowell, West) and heavy on leaves and young terminals of maples in an area of Craig County (Rowell, Fields).

SPITTLEBUGS (undetermined) - NEW MEXICO - Heavy on chokecherry trees near Taos. (N. M. Coop. Rpt.).

SCALE INSECTS - MARYLAND - Chrysomphalus obscurus heavy on oaks in sections of Prince Georges County. Aspidiotus perniciosus infesting pyracantha at University Park. (U. Md., Ent. Dept.). VIRGINIA - Lecanium fletcheri infesting arborvitae in Giles County. First-instar crawlers present. (Morris). TEXAS - Icerya purchasi causing heavy damage to many different shrubs in Mason County. (Texas Coop. Rpt.). INDIANA - Pulvinaria innumerabilis unusually abundant throughout the State. (Schuder). COLORADO - Gossyparia spuria hatching, crawlers abundant, in Montezuma, La Plata and Larimer Counties. Controls underway in some municipal areas. (Colo. Ins. Sur.).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Prevalent on ornamentals. (Ins. Dis. Newsl.). PENNSYLVANIA - Very heavy on Polygonum sp. in York County (Negley) and first noticed on flowers in Lebanon County June 14 (Sleesman). DELWARE - Very abundant on wild cherry and causing heavy leaf injury locally in Kent County. (Burbutis). MARYLAND - Becoming abundant on roses and other ornamentals in most sections. (U. Md., Ent. Dept.). VIRGINIA - Medium on roses at Crewe (Cassell) and Danville (Morris).

ROSE CHAFER (Macrodactylus subspinosus) - WISCONSIN - Populations very heavy in many light soil areas of State. (Wis. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MINNESOTA - During period June 14-20, seventeen species were found in larval collections. Culex tarsalis, C. restuans and Culiseta inornata were found in 38 percent of collections, Aedes vexans in 7 percent. The latter species accounted for 85 percent of biting collections and 82 percent of light trap collections. Psorophora horrida was taken in two biting collections in Scott County. (Minn. Ins. Rpt.).

MOSQUITOES (undetermined) - WISCONSIN - Collections decreasing in Madison, probably due to cool nights. Have been bothering grazing cattle in some counties at night. (Wis. Coop. Sur.). WYOMING - Have been a problem throughout most of State during June. (Davison). UTAH - Annoying about homes in Logan, Millville and Smithfield, Cache County. (Knowlton).

CLEAR LAKE GNAT (Chaoborus astictopus) - CALIFORNIA - Heavy populations in Placerville, El Dorado County. (Cal. Coop. Rpt.).

CATTLE GRUBS (Hypoderma spp.) - WISCONSIN - Adult activity noted in Green County. (Wis. Coop. Sur.).

HORN FLY (Siphona irritans) - OKLAHOMA - Counts per animal on cattle checked were 50-75 in Pushmataha County (Goin), 200 in Johnston County (Vinson), 250-400 in Osage County (Stiles), 750 on untreated cattle in Tulsa area (Taylor) and 750-1,000 on untreated milking animals in Payne County (Henderson, Mount). TEXAS - Light on cattle in Wharton County. (Turney).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 10 per untreated animal on cattle checked in Tulsa area. (Taylor).

TABANIDS - NEW JERSEY - Chrysops spp. numerous over the State. (Ins. Dis. Newsl.). LOUISIANA - Tabanus sp. averaged 10 per 15-minute collecting period in St. Landry, Calcasieu and Tensas Parishes. (Spink). OKLAHOMA - Tabanus spp. averaged one per animal on cattle checked in Pushmataha County, ranged 4-8 per animal in Johnston County and averaged 2 per animal in Tulsa County. (Goin, Vinson, Taylor).

FLIES (undetermined) - INDIANA - Clustering about eyes and nostrils of cattle in pastures. Counts ranged to 200 per head and averaged about 40 per head. Present throughout the State. (Dobson, Matthew).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Mainly this species, ranged 2-8 per animal on cattle checked in Pushmataha County, with seed ticks and nymphs appearing in great numbers in pastures in wooded areas in southeast. (Goin). Ranged 10-30 per animal on cattle checked in Johnston County. (Vinson).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - ARIZONA - During May 2 new infestations were found in Maricopa County. NEW MEXICO - Two infestations were found during May, one involved stored-grain on a ranch near Separ, Grant County, and one was on a poultry farm at Hatch, Dona Ana County. (PPC, West. Reg.). OKLAHOMA - Checks of grain, feed and seed storage firms in Noble, Kay and Tulsa Counties were negative. (Robinson).

A DERMESTID (Trogoderma simplex) - WASHINGTON - Found in wheat at Port of Tacoma, Pierce County. (Halliday).

BENEFICIAL INSECTS

LADY BEETLES - SOUTH DAKOTA - Hippodamia spp. abundant in nearly all fields in southeastern area. (Mast). WYOMING - Hippodamia sp. adults averaged 2-3 per sweep in alfalfa near Torrington. (Fronk). In alfalfa, populations averaged 3-4 per sweep in Glendo area and 1-2 per sweep near Gillette. (Davison). COLORADO - Very heavy migration of Hippodamia convergens observed to red neon lights on night of June 23-24 at Ft. Collins, Larimer County. Apparently from foothills or mountains to the west. Numbers were in the thousands and quite general in the area. (Colo. Ins. Sur.). OKLAHOMA - Averaged 3 per sweep in alfalfa and ranged 2-5 per plant in cotton fields checked in McCurtain County (Goin); adults and larvae ranged 2-7 per sweep in alfalfa and 0-2 per plant in cotton fields checked in south central area (Vinson); ranged 0-0.3 per linear foot in southwestern area cotton fields checked (Hatfield); averaged 10 per sweep in alfalfa field and up to 5 per 100 plants in grain sorghum and cotton fields checked in central area (Pennington). LOUISIANA - Counts of several species ranged 500-2,000 per acre in 5 cotton fields examined in Tensas Parish. (Spink).

BIG-EYED BUGS (Geocoris spp.) - LOUISIANA - Ranged 3-6 per 100 feet of row in 5 cotton fields examined in Tensas Parish. (Spink).

NABIDS (Nabis spp.) - SOUTH DAKOTA - Abundant in nearly all southeastern area fields. (Mast).

LACEWINGS (Chrysopa spp.) - SOUTH DAKOTA - Larvae numerous in most fields in southeastern area of State. (Mast). OKLAHOMA - Ranged up to 2 per sweep in south central area alfalfa fields checked (Vinson), up to 5 per sweep in Chickasha area alfalfa field and averaged 5 per 100 plants in a cotton field in Verdon area (Pennington). UTAH - Numerous in alfalfa fields at Price and from Huntington to Ferron in Emery County. (Knowlton).

SYRPHIDS - OKLAHOMA - Averaged one per sweep in a McCurtain County alfalfa field. (Goin). UTAH - Larvae numerous in alfalfa fields at Nephi, Juab County. (Knowlton).

PARASITES - DELAWARE - Several adults of Lydella sp. noted on corn field in Dover area where releases were made in mid-June. (Burbutis). PENNSYLVANIA - Apanteles fumiferanae taken from Choristoneura sp. on Virginia pine is first record for the State. Det. C. F. W. Muesebeck. (Drooz).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - OKLAHOMA - Check of 16 traps near air fields in Tulsa and Muskogee Counties was negative. (Robinson). INDIANA - Pupation 25 percent July 19 in Newton County. No adults found. (Gould, Bills).

CICADAS - NEW MEXICO - Undetermined species very abundant on poplars along streams in Colfax and Taos Counties. (N. M. Coop. Rpt.). NORTH CAROLINA - About 10 percent of branches of maples injured by M. septendecim in Halifax County. Many with slits running 8-12 inches on the stem. (Peeden, Farrier). TENNESSEE - Brood XIX of Magicicada septendecim emerging in Rhea County. (Bennett).

EUROPEAN EARWIG (Forficula auricularia) - CALIFORNIA - Appears heavier this year than in 1958 and as a greater nuisance. (Cal. Coop. Rpt., May Sum.). UTAH - Complaints increasing in towns and cities in northern part of State. (Knowlton).

AN ANT (Formica montana) - NEW MEXICO - Has become a serious problem in pasture land near Cerrillos, Sante Fe County, because of the numerous mounds being made. (N. M. Coop. Rpt.).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - DELAWARE - Large swarms noted in New Castle and Kent Counties. (Burbutis).

GRASSHOPPERS - CALIFORNIA - A fungus, Entomophthora grylli, has been widespread over the State on grasshoppers and has been very effective in reducing the threat. Apparently the fungus attacks only the nymphal stage in California. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 9(25) : 551 - TENT CATERPILLARS - CALIFORNIA - M. constricta should read M. constrictum.

CEIR 9(25) : 555 - ADDITIONAL NOTES - NEBRASKA - GRASSHOPPERS - Boopedon nubilium should read Boopedon nubilum.

CEIR 9(26) : 571 - CLOVER APHID (Aphis bakeri) should read (Anuraphis bakeri).

CEIR 9(26) : 585 - SAWFLIES - WISCONSIN - Pristophora erichsonii should read Pristiphora erichsonii.

ADDITIONAL NOTES

MINNESOTA - EUROPEAN CORN BORER emergence ranges from 65 to 100 percent in central, southwest, west central, south central and southeast districts. Egg mass counts in southwest vary from 12 to 96 per 100 plants with highest counts in Rock County. Peak egg laying should occur by July 3 or 4 in southern counties. GREENBUG populations continue to decline and it appears that all grain is out of danger from further injury with possible exception of northern counties. Red leaf virus is now widespread especially in those fields which previously had high greenbug populations. GRASSHOPPER infestations were found noneconomic in all fields checked in central, southeast, south central and southwest districts. Populations somewhat higher in west central district. (Minn. Ins. Rpt.).

WEST VIRGINIA - EUROPEAN CHAFER survey in previously infested area was negative. CATALPA SPHINX heavy on catalpa in Pendleton, Grant and Upshur Counties. MEXICAN BEAN BEETLE is light to moderate on beans statewide. COLORADO POTATO BEETLE is light on potatoes in scattered localities. (W. Va. Ins. Sur.).

RHODE ISLAND - COLORADO POTATO BEETLE larvae abundant on untreated potatoes in southern county. THREE-LINED POTATO BEETLE larvae locally abundant on potatoes and petunias. SIX-SPOTTED LEAFHOPPER adults abundant on grasses and weeds in southern county. (Kerr, Hansen).

MAINE - Following insect conditions reported from Presque Isle. On untreated potatoes, several species of potato infesting APHIDS (Macrosiphum solanifolii, M. solani, Myzus persicae, Aphis abbreviata) were ending spring migrations. M. solanifolii is the most abundant species, followed in decreasing order of abundance by M. solani, A. abbreviata and M. persicae. Overall populations on untreated potatoes are very small, averaging 6.9 percent of plants infested. POTATO FLEA BEETLE populations and feeding injury of the overwintered adults is very light on potatoes and tomatoes most places; light in few places on untreated tomatoes. Moderate to severe damage by CUTWORMS observed or reported in gardens. (Shands).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ARKANSAS						
Fayetteville 6/18-24	11	12				53
Hope 6/18-24	6	9		17		13
Kelso 6/18-24	6	1	14			15
*Morrilton 6/18-24	6	14				4
FLORIDA						
Gainesville 6/23						1
ILLINOIS						
Urbana 6/19-25	131	13		119		
INDIANA (Counties)						
Lawrence 6/17,18,21	6	6		7	1	2
Tippecanoe 6/18-24	41	2		5	1	2
KANSAS						
Garden City 6/16-22	9	14		8	3	11
Hays 6/25	12					
Manhattan 6/20,23-26	55	18		51	1	50
Wathena 6/18-24	32	12		27	4	4
LOUISIANA						
Baton Rouge 6/19-25	1	2	3			6
Franklin 6/22,24	2	1				1
Tallulah 6/20-26						1
MAINE						
Orono 6/14-20	3					
MARYLAND						
Fairland 6/12-24				1	1	
Upper Marlboro 6/12-18	1				6	3
MISSISSIPPI						
*Stoneville 6/19-25	6	21		15	6	30
MISSOURI						
Columbia 6/19-26	28	6		14	3	10
NEBRASKA						
Alliance 6/12-18	299	28		18	4	8
Concord 6/13-19	76	6		1		6
Kearney 6/14-20	66	21		6	1	68
Lincoln 6/10-17	717	81		30		115
North Platte 6/16-22	50	27		39	5	14
Scotts Bluff 6/12-18	466	74		157	4	28
NORTH CAROLINA						
Clayton 6/25					1	1
Faison 6/25		8				24
SOUTH CAROLINA						
Clemson 6/20-26	1	2		6	3	57
Charleston 6/22-28	2	2	2	2	1	1
SOUTH DAKOTA						
Brookings 6/25	102	3				

*Two traps Morrilton; 3 traps- Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
TENNESSEE (County)						
Blount 6/16-22	5	2		7	2	
TEXAS						
Brownsville 6/13-19	4	132	112		3	2 170
Waco 6/20-26	10			41	1	129
WISCONSIN						
*Arlington 6/16-22	152	5		5		
Green Lake 6/16-22	18					
Middleton 6/19-24	23	3		1		
River Falls 6/17-20	6					
Rosendale 6/16-22	76					
*Theresa 6/16-22	165					
Waterford 6/15-22	153					

*Two traps - Arlington; 3 traps - Theresa

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